

J. S. LANG.
SAFETY CAN.

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950,929.

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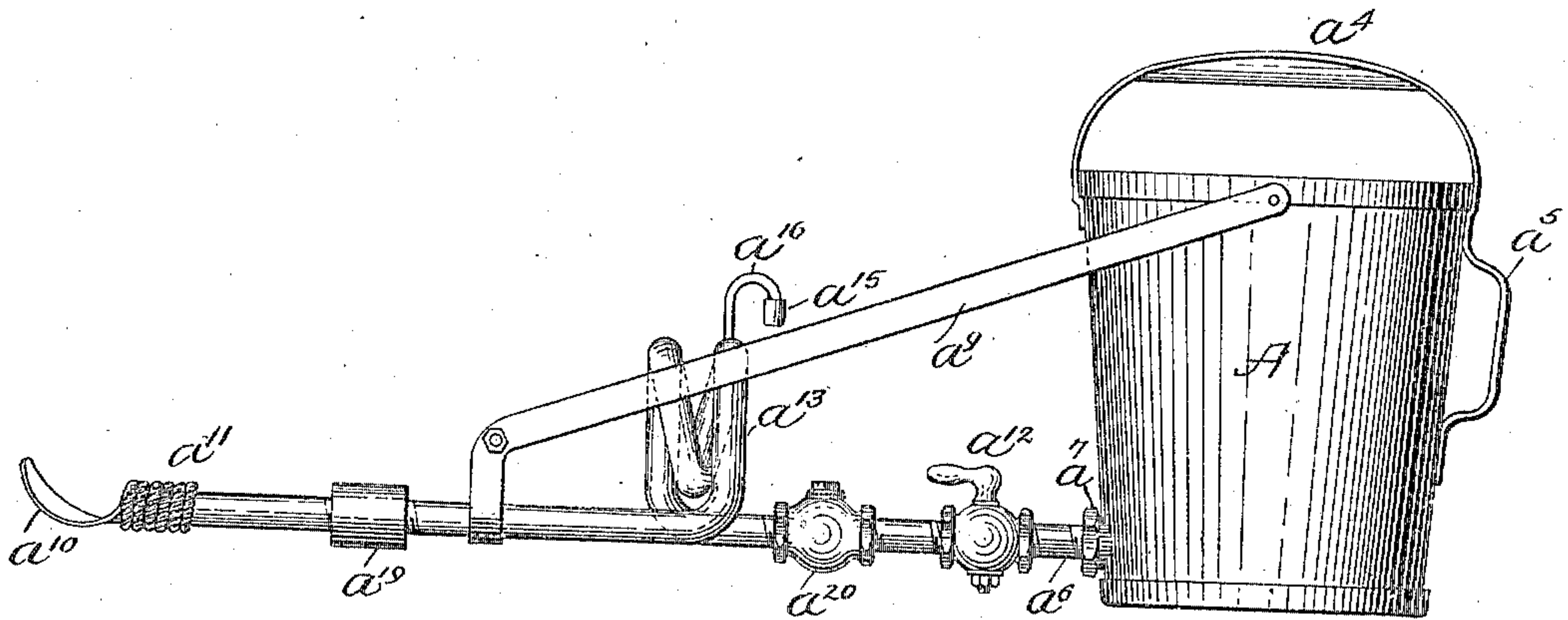


FIG. 1.

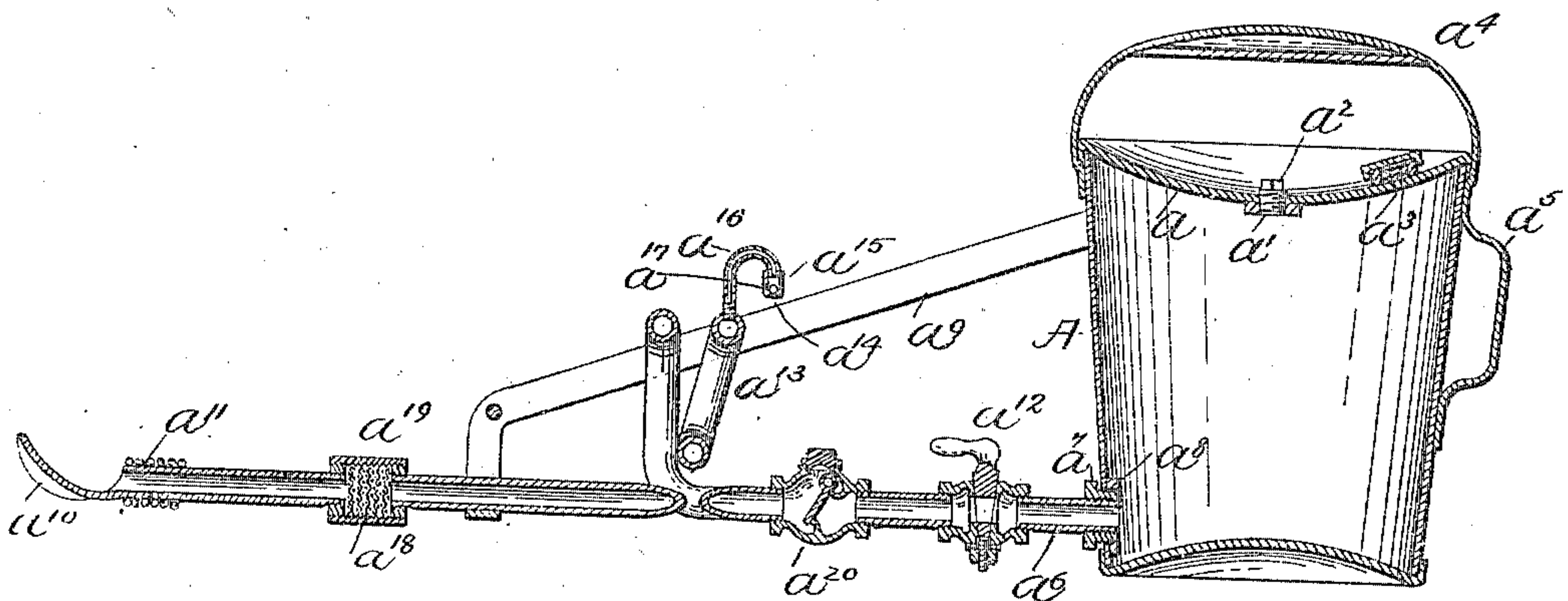


FIG. 2.

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UNITED STATES PATENT OFFICE.

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SAFETY-CAN.

950,929.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES S. LANG, of Boston, in the county of Suffolk and State of Massachusetts, a citizen of the United States, have invented a new and useful Improvement in Safety-Cans, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

My invention relates especially to a can or device used in the distribution of a volatile inflammable liquid upon snow or ice for the purpose of removing the snow or ice by ignition of the vapor arising from such liquid. The ordinary method of practicing this process has been to first pour or sprinkle such liquid upon the snow or ice and afterward ignite the vapor arising from such liquid by applying a flame to it. The process as thus practiced, though of great utility, is not only a slow one involving distinct steps, but it is also an uneconomical one for the reason that before the vapor of the liquid can be ignited after it has been poured out or distributed a considerable amount of vapor has already escaped and the benefit derived from its ignition become lost.

The object of my present invention is accordingly to provide a distributing can or device by which the volatile inflammable liquid may not only be poured upon the snow or ice, but simultaneously with the act of pouring the vapor arising from the liquid may be ignited so that no loss of vapor occurs. The can or device which I have provided for this purpose is one which provides for the distribution of the liquid upon the snow or ice and also for igniting the vapor arising from the liquid stream as it flows from the can. It is to be understood that vapor is continually arising from the outpouring stream of liquid, and it is the vapor from this stream of liquid which I ignite with the effect that not only is a stream of volatile liquid poured upon the snow or ice, but accompanying this stream is a flame reaching to the snow or ice and acting to ignite the vapor from the liquid there deposited. With such a device there is some danger to one carrying the can unless provision is made for preventing the flame from striking back into the body of the can. Accordingly in the can or device which I have devised provision is made which, while permitting the liquid to

be freely poured from the can, prevents the flame from striking back into the body of the can.

My invention can best be seen and understood by reference to the drawings in which—

Figure 1 shows the can in side elevation, and Fig. 2 a vertical longitudinal section thereof.

Referring to the drawings:—A represents the body of the can forming a fluid-containing chamber. The can is provided with a cover fixed to the body thereof and consisting of a plate a with a hole or opening therein a^1 by which the fluid may be poured into the can. In this connection it is to be observed that the cover a is preferably made concave forming a basin into which the fluid may be poured previous to its entering into the can. The opening a^1 is closed by a plug a^2 . In order that air may have access to the interior chamber of the can at the same time providing against the possibility of flame striking into the same, the plate a is provided with a supplementary opening a^3 at the point of which opening there is affixed to the plate a casing including one or more thicknesses of wire gauze.

For carrying and tipping the can it is provided with handles a^4 , a^5 .

Attached to and extending from the body of the can, near the bottom thereof, is an exit pipe a^6 which is secured to the can by means of a bushing a^7 and nut a^8 . This pipe is supported by a hanger a^9 . From the end of the pipe a^6 there projects a fluid-distributing plate a^{10} .

A^{11} represents an asbestos wick wrapped around the end of the pipe which becomes saturated with the fluid as it issues from the pipe. This wick on being ignited forms a torch for igniting the fluid or gases thereof as the fluid pours from the end of the exit pipe. The passage of the fluid from the body of the can through the pipe a^6 is controlled by a cock a^{12} .

For the purpose of positively preventing the flame from running up the exit pipe and striking into the body of the can the pipe is bent preferably at a point about midway its extension into the form of, or provided with a helical coil a^{13} through which the fluid from the body of the can must pass before discharging from the exit pipe. This coil is so arranged that whatever the position of the can, whether resting in a normal posi-

tion on the bottom thereof or carelessly laid upon its side, there will still be left at some point within the coil a sufficient amount of fluid to act as a stop against any backward
5 penetration of the flame. The coil in other words forms a trap.

For the purpose of obviating any tendency of the fluid being sucked or drawn out of the coil by a partial vacuum formed in
10 the end of the pipe the coil is provided with an air inlet a^{14} preferably formed in the end of a ball-containing socket a^{15} which connects with the coil by means of a curved pipe a^{16} . The socket a^{15} it is to be noted is made
15 dependent and the ball a^{17} contained within it is adapted by gravity to normally close the air opening a^{14} . In case, however, there was any tendency to a dislodgement of the fluid within the coil, such effect would immedi-
20 ately be counteracted by the entrance of air through the opening a^{14} , the pressure of which would lift the ball. As a supplementary means of precaution the passage of the exit pipe may be closed by one or more thick-
25 nesses of wire gauze a^{18} . The gauze may be contained within a casing a^{19} into which the disconnected ends of the pipe may be threaded. The exit pipe may also to advantage be provided with an outwardly opening valve
30 a^{20} which prevents the fluid in the exit pipe running back into the body of the can when the cock a^{12} is open.

Having thus fully described my invention, I claim and desire to secure by Letters Pat-
35 ent of the United States:—

1. A can of the character specified, the same having a body forming a chamber for containing a volatile liquid, the vapor of which is inflammable, a pour-out pipe hav-
40 ing a passage through the same whereby the liquid in said body may pass through said pipe and pour in a stream from the end thereof during the operation of the device, means located away from the end of said
45 pipe for preventing a flame from striking back through said pipe into the body of said can after the ignition of the vapor from the liquid pouring therefrom, and a wick located at a point adjacent to the end of said

pipe whereby it may become saturated with 50 the liquid pouring therefrom, substantially as and for the purposes set forth.

2. A can of the character specified, the same having a body forming a chamber for containing a volatile liquid, the vapor of 55 which is inflammable, a pour-out pipe having a passage through the same whereby the liquid in said body may pass through said pipe and pour in a stream from the end thereof during the operation of the device, 60 said pipe having a coil formed therein away from the end of said pipe, said coil being adapted and arranged to the end that it may retain liquid forming a seal for preventing a flame striking back through said pipe into 65 the body of said can after the ignition of the vapor pouring from the end of said pipe.

3. A can of the character specified, the same having a body forming a chamber for containing a volatile liquid, the vapor of 70 which is inflammable, a pour-out pipe having a passage through the same whereby the liquid in said body may pass through said pipe and pour in a stream from the end thereof during the operation of the device, 75 said pipe having a coil formed therein away from the end of said pipe, said coil being adapted and arranged to the end that it may retain liquid forming a seal for preventing a flame striking back through said pipe into 80 the body of said can for the ignition of the vapor pouring from the end of said pipe, and a wick located at a point adjacent to the end of said pipe whereby it may become saturated with the liquid pouring therethrough, 85 substantially as and for the purposes set forth.

4. A can of the character specified having a body forming a fluid-containing chamber, an exit pipe therefrom, a coil in said pipe, 90 means forming an air-inlet passage into said coil, and a valve controlled by atmospheric pressure for controlling said passage.

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Witnesses:

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